



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,447	03/26/2004	Xiao-Yuan Hou	USP2343C-DRSH	8958
30265	7590	11/05/2007	EXAMINER	
RAYMOND Y. CHAN			LIN, JAMES	
108 N. YNEZ AVE., SUITE 128			ART UNIT	
MONTEREY PARK, CA 91754			PAPER NUMBER	
			1792	
			MAIL DATE	DELIVERY MODE
			11/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/810,447	Applicant(s) HOU ET AL.	
	Examiner Jimmy Lin	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in China on 7/24/2003. It is noted, however, that applicant has not filed a certified copy of the 03141803.1 application as required by 35 U.S.C. 119(b).

### *Election/Restrictions*

2. Applicant's election without traverse of Group II, claims 15-20 in the reply filed on 11/7/2006 is acknowledged.
3. Claims 1-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/7/2006.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1792

6. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (U.S. Patent No. 6,456,003) in view of Anthony et al. (U.S. Patent No. 6,437,040), Arora et al. (U.S. Publication No. 2002/0045007), and O'Connor et al. (U.S. Publication No. 2002/0172827).

Mori discloses a method of forming an organic electroluminescent (EL) element. Mori teaches that the electrodes for use in the organic EL device mainly use metal oxides or metals that are typically hydrophilic. On the other hand, the organic materials that are in contact with the electrodes in order to exchange and transport carriers are hydrophobic. Thus, the interface between the electrode/organic layers can not have a sufficient adhesion property (col. 4, lines 11-17). Mori teaches that an organic buffer layer can be used between the electrode and the organic layer to improve the adhesion therebetween (col. 6, lines 25-35). The organic buffer layer can be formed to a thickness of approximately 1-10 nm via a vacuum evaporation method (col. 8, lines 35-45).

Mori teaches an organic buffer layer, but does not explicitly teach that the organic buffer can be a fatty acid having a chemical structure containing five to twenty carbon atoms. However, one of ordinary skill in the art would have recognized that some sort of adhesion promoter is necessary between the electrode and the organic layer and that compounds other than the specific materials as taught by Mori would be suitable so long as the buffer layer can enhance the adhesion between a hydrophobic surface and a hydrophilic surface. Accordingly, Anthony teaches that amphiphilic compounds (i.e., compounds exhibiting hydrophobic and hydrophilic properties) can be used to promote the adhesion between a hydrophobic surface and a hydrophilic surface (see col. 1-col. 7). Arora teaches a method of vacuum vapor deposition of an amphiphilic compound onto a substrate at a deposition rate of 0.1-1.0 nm/s. The vacuum pressure can be between  $10^{-4}$  to  $10^{-6}$  torr (i.e.,  $1.33 \times 10^{-2}$  to  $1.33 \times 10^{-4}$  Pa) (abstract; [0016],[0040]). In view of these teachings, it would have been obvious to one of ordinary skill in the art at the time of invention to have vapor deposited an amphiphilic compound as the particular organic buffer layer of Mori with a reasonable expectation of success because one of ordinary skill in the art would have recognized that other adhesion promoters would have been able to enhance the adhesion between a hydrophobic layer and a hydrophilic layer, because Anthony teaches that amphiphilic layers can achieve such results, and because Arora teaches that such layers can be deposited in accordance with the need of Mori.

Art Unit: 1792

Additionally, O'Connor teaches that sodium stearate (i.e., a fatty acid salt containing five to twenty carbon atoms) is a well-known amphiphilic compound [0024]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have used sodium stearate as the particular amphiphilic compound of Mori, Anthony, and Arora with a reasonable expectation of success. The selection of something based on its known suitability for its intended use has been held to support a prima facie case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

7. Claims 15-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori '003 in view of Anthony '040, Arora '007, and Schultz et al. (U.S. Patent No. 6,534,687).

Mori, Anthony, and Arora are discussed above, but do not explicitly teach that the amphiphilic compound can be a fatty acid having a chemical structure containing five to twenty carbon atoms. However, Schultz teaches that fatty acids can be amphiphilic substances (col. 1, lines 17-20) and that aluminum stearate and zinc stearate are suitable fatty acids (col. 9, lines 4-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have used aluminum stearate or zinc stearate as the particular amphiphilic compound of Mori, Anthony, and Arora with a reasonable expectation of success.

8. Claims 15-16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori '003 in view of Anthony '040, Arora '007, and Dattagupta et al. (U.S. Patent No. 5,711,964).

Mori, Anthony, and Arora are discussed above, but do not explicitly teach that the amphiphilic compound can be a fatty acid having a chemical structure containing five to twenty carbon atoms. However, Dattagupta teaches that sodium oleate is a well-known amphiphilic compound. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have used sodium oleate as the particular amphiphilic compound of Mori, Anthony, and Arora with a reasonable expectation of success.

Art Unit: 1792

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Lin whose telephone number is 571-272-8902. The examiner can normally be reached on Monday thru Friday 8AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JL  
JL

  
**FRED J. PARKER**  
**PRIMARY EXAMINER**